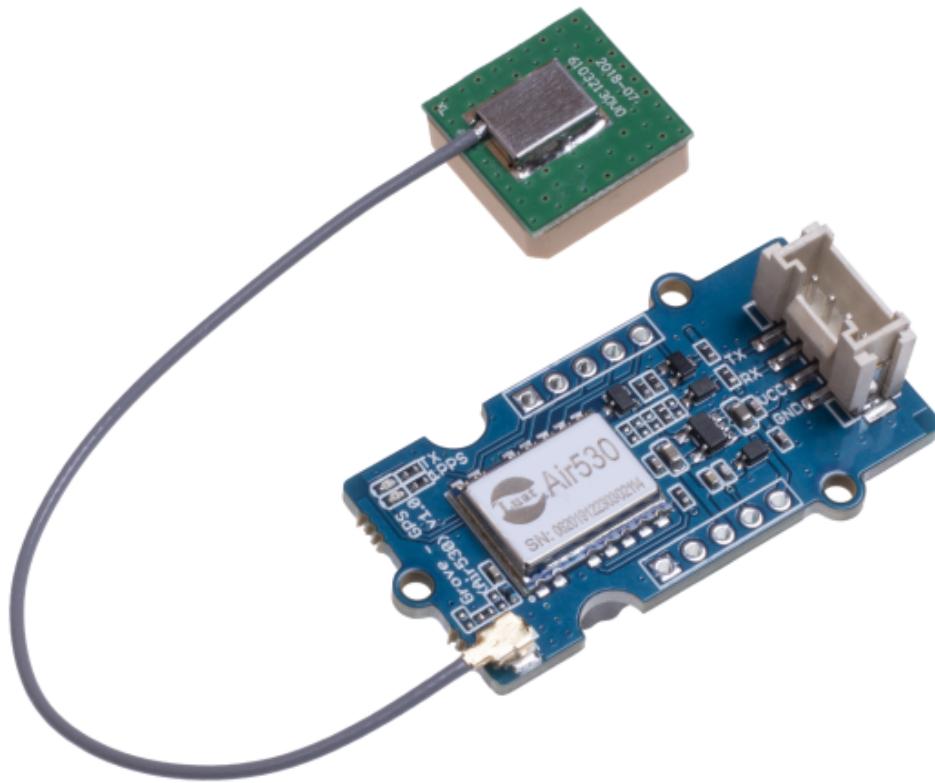


Grove - GPS (Air530) - Seeed Studio



Grove - GPS (Air530)

SKU

109020022

Grove-GPS (Air530) is a high-performance, highly integrated multi-mode satellite positioning and navigation module, supporting plenty of location systems, such as GPS/Beidou/Galileo and etc.

PRODUCT DETAILS

Feature

- Positioning error within 10 meters
- Multi-mode satellite positioning & navigation and support more than 6 satellites at the same time
- The position still quickly and accurately under the condition of bad signal
- Low power consumption at only 31uA
- Compatible hard/soft interface for other modules

- Adopt the integrated design of RF baseband, which integrates DC/DC, LDO, LNA, RF front-end, baseband processing, 32-bit RISC based chip, RAM, FLASH storage, RTC and power management functions

Description

Confused about your GPS not working well in urban or outdoors under only one or a few satellite module? Then you should not miss our new Grove-GPS (Air530). It's a high-performance, highly integrated multi-mode satellite positioning and navigation module to use with Arduino. It supports GPS / Beidou / Glonass / Galileo / QZSS / SBAS, which makes it suitable for GNSS positioning applications such as car navigation, smart wear, and drone. Meanwhile, this module is capable of receiving more than 6 satellites at the same time and is able to work excellently even if there's a very bad signal.

Grove – GPS Module vs Grove – GPS (Air530)

Specs	<u>Grove – GPS Module</u>	Grove – GPS (Air530)
Size	40mm x 20mm x 13mm	40mm x 20mm x 13mm
Update Rate	1Hz, max 10Hz	–
Baud Rate	9,600 – 115,200	9600 – 921600
Navigation Sensitivity	-160dBm	-166dBm
Power Requirements	3.3/5V	3.3/5V
Number of Channels	22 tracking, 66 channels	–
Time to first start	Cold start: 13s Warm start: 1-2s Hot start: <1s	Cold start: 30 seconds Warm Start: 4 seconds
Antennas	Antenna included	Antenna included
Accuracy	2.5m GPS Horizontal Position Accuracy	2.5m Horizontal positioning accuracy

Specification

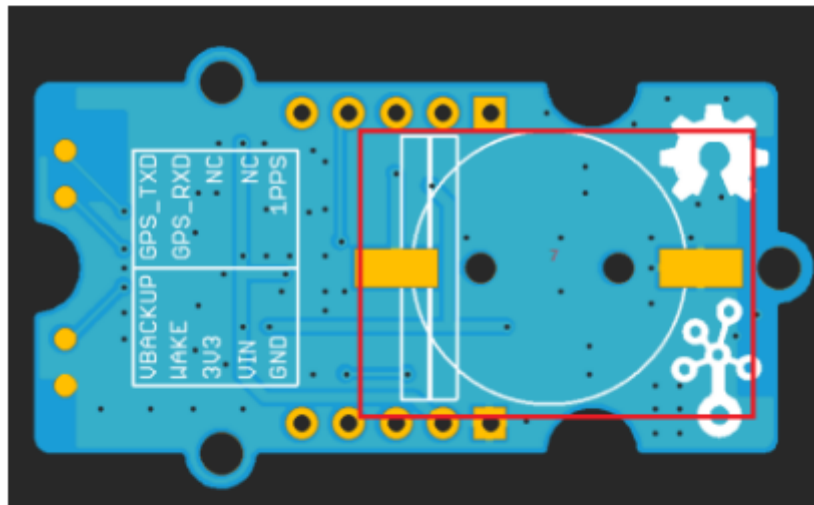
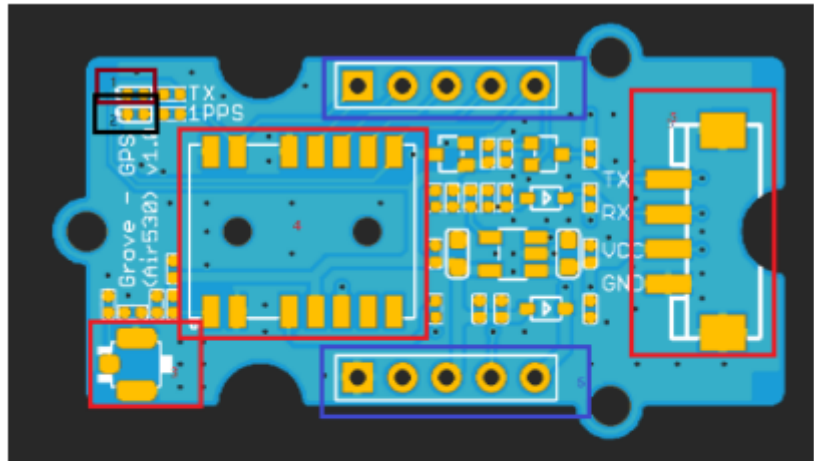
parameters	values
Supply voltage	3.3V/5V
Working current	up to 60mA

parameters	values	
Interface	UART	
Time of warm start	4s	
Time of cold boot	30s	
Working Temperature	-35C-85°C	
Storage Temperature	-55°C-100°C	
Humidity	5%-95%	
Time of Positioning	Pure hardware cold start	27.5s
	Pure hardware hot start	<1S
	Pure hardware recapture	<1S
	Software-assisted A-GNSS	<5S
Sensitivity	Cold start	-148dBm
	Hot Start	-162dBm
	Recapture	-164dBm
	Track	-166dBm
Accuracy	Horizontal positioning accuracy	2.5m
	High positioning accuracy	3.5m
	Speed accuracy	0.1m/s
	Time transfer accuracy	30ns
Consumption	Capture current value@3.3V	42.6mA
	Tracking current value@3.3V	36.7mA
	Low power mode@3.3V	0.85mA
	Ultra-low-power mode@3.3V	31uA

Note

The test above is taken under bi-modules of GPS&Beidou.

Pinout



1. AIR530 TX Indicator (BLUE LED);
2. 1PPS Indicator (GREEN LED);
3. U.FL Antenna Interface;
4. AIR530 Module;
5. Grove Interface;
6. AIR530 Headers;
7. 3V Button Battery (CR1220).

Applications

- GPS tracker
- GPS navigation
- Distance measurement
- Car navigation
- Drone

Part list

Items	Values
GPS (Air 530) board	1
Grove cable	1

Cautions

- The input power supply voltage of Grove power supply interface, should not exceed 5.6V, otherwise it may damage the device.
- The voltage of the selected button battery should not exceed 3V, or it will probably damage the device.

ECCN/HTS

HSCODE 8526919090

UPC